

In The Claims

Applicants submit below a complete listing of the current claims, where insertions, if any, are indicated by underlining, and deletions, if any, are indicated by strikeouts and/or double bracketing.

Listing of the Claims

1. (Currently Amended) A method for controlling in closed loop an analog system generating an output signal from a control signal, wherein the control signal is a series of digital values, each new digital value being determined from ~~the~~ a difference between a signal linked to the output signal and ~~the~~ a last determined value of the control signal multiplied by a selected factor.

2. (Currently Amended) The control method of claim 1, wherein the analog system generates an analog output signal and is controlled by an analog control signal corresponding to ~~the~~ a conversion of the digital control signal, said digital control signal being provided by a digital system which generates successive values of the digital control signal based on a reference signal and on a digital detection signal corresponding to ~~the~~ a conversion of an analog detection signal, a new value of the digital control signal being determined according to the steps of:

measuring an analog signal representative of the analog output signal;
determining the analog detection signal based on ~~the~~ a difference between the representative analog signal and the analog control signal multiplied by the selected factor;
converting the analog detection signal into a new digital detection signal value; and
calculating the new value of the digital control signal based on said new value of the digital detection signal and on ~~the~~ a last previously-determined value of the digital control signal.

3. (Currently Amended) The method of claim 2, wherein the representative analog signal and the analog control signal have ~~the~~ a same sign, the analog detection signal corresponding to ~~the~~ a difference between the representative analog signal and the analog control signal multiplied by an amplification coefficient.

4. (Previously Presented) The method of claim 1, wherein the analog output signal is a variable voltage.

5. (Currently Amended) The method of claim 2, wherein the representative analog signal is a positive voltage substantially equal to ~~the~~ a maximum value of the analog output signal.

6. (Currently Amended) The method of claim 2, wherein the reference signal is representative of ~~the~~ a desired power of the analog output signal.

7. (Previously Presented) The method of claim 3, wherein the amplification coefficient is constant.

8. (Previously Presented) The method of claim 3, wherein the amplification coefficient depends on the operating conditions of the digital system.

9. (Currently Amended) A device for controlling an analog system ~~[[a]]~~ providing an analog output signal, comprising:

a digital system providing a digital control signal;

a digital-to-analog converter receiving the digital control signal and providing an analog control signal to the analog system;

a sensor measuring an analog signal representative of the analog output signal;

a comparator providing an analog detection signal based on the representative analog signal and on the analog control signal; and

an analog-to-digital converter converting the analog detection signal into a digital detection signal provided to the digital system, said digital system determining the digital control signal based on a reference signal and on the digital detection signal.

10. (Previously Presented) The device of claim 9, wherein the analog system is an amplifier of signals of a portable telephone.

11. (New) The device of claim 9, wherein the comparator is operative to compare the representative analog signal and the analog control signal multiplied by a value, wherein the analog detection signal is based on a result of the comparison.

12. (New) The device of claim 11, wherein the value by which the analog control signal is multiplied is a constant.

13. (New) The device of claim 11, wherein the value by which the analog control signal is multiplied depends on operating conditions of the analog system.

14. (New) The device of claim 11, wherein the comparator is operative to determine a difference between the representative analog signal and the analog control signal multiplied by the value, wherein the analog detection signal is based on the determined difference.

15. (New) The device of claim 9, wherein the analog output signal is a variable voltage.

16. (New) The device of claim 9, wherein the representative analog signal is a positive voltage substantially equal to a maximum value of the analog output signal.

17. (New) The device of claim 9, wherein the representative analog signal is a voltage substantially equal to an average value of the analog output signal.

18. (New) The device of claim 9, wherein the reference signal is representative of a desired power of the analog output signal.

19. (New) The method of claim 2, wherein the representative analog signal is a voltage substantially equal to an average value of the analog output signal.

20. (New) A method of controlling a system that generates an output signal, the method comprising acts of:

- (A) controlling a value of the output signal, at least in part, with a control signal;
- (B) multiplying a last-determined value of the control signal by a factor to produce a product;
- (C) comparing a value of the product to a value of a signal representative of the output signal; and
- (D) generating a new value of the control signal based on the comparison.

21. (New) The method of claim 20, further comprising an act of:

- (D) detecting the representative signal.

22. (New) The method of claim 20, wherein the act (B) comprises multiplying the last-determined value by a constant factor.

23. (New) The method of claim 20, wherein the act (B) comprises multiplying the last-determined value by a factor that depends on operating conditions of the system.

24. (New) The method of claim 20, wherein the act (C) comprises determining a difference between the value of the representative signal and the value of the product, and wherein act (D) comprises generating the new value based on the difference.

25. (New) The method of claim 20, wherein the output signal is an analog output signal.

26. (New) The method of claim 20, wherein the representative signal has a positive voltage substantially equal to a maximum value of the output signal.

27. (New) The method of claim 20, wherein the representative signal has a voltage substantially equal to an average value of the output signal.

28. (New) The method of claim 20, wherein the act (D) comprises generating a new value of the control signal based on the comparison and a reference value.

29. (New) The method of claim 28, wherein the reference signal is representative of a desired power of the output signal.

30. (New) The method of claim 20, wherein the act (C) comprises producing an analog result, wherein the method further comprises an act of:
(E) converting the analog result to a digital value, and
wherein the act (D) comprises generating the new value based on the digital value.

31. (New) The method of claim 20, wherein the system is an analog system.

32. (New) The method of claim 31, wherein the analog system comprises an amplifier of signals of a portable telephone.

33. (New) An apparatus for controlling a system that provides an output signal, the apparatus comprising:
a controller to generate a control signal that controls, at least in part, a value of the output signal;
a multiplication component to multiply a last-determined value of the control signal by a factor to produce a product; and
a comparator to compare a value of the product to a value of a signal representative of the output signal,
wherein the controller is operative to generate a new value of the control signal based on the comparison.

34. (New) The apparatus of claim 33, further comprising;
a sensor to detect the representative signal.

35. (New) The apparatus of claim 33, wherein, the multiplication component is an amplifier.
36. (New) The apparatus of claim 34, wherein the system is an analog system.
37. (New) The apparatus of claim 36, wherein the analog system comprises an amplifier of signals of a portable telephone.
38. (New) The apparatus of claim 33, wherein the factor is a constant.
39. (New) The apparatus of claim 33, wherein a value of the factor depends on operating conditions of the system.
40. (New) The apparatus of claim 33, wherein the comparator is operative to determine a difference between the value of the product and the value of the representative signal, wherein the controller is operative to generate the new value based on the difference.
41. (New) The apparatus of claim 33, wherein the output signal is a variable voltage.
42. (New) The apparatus of claim 33, wherein the representative signal has a positive voltage substantially equal to a maximum value of the output signal.
43. (New) The apparatus of claim 33, wherein the representative signal has a voltage substantially equal to an average value of the output signal.
44. (New) The apparatus of claim 33, wherein the controller is operative to generate the new value based on the comparison and a reference signal.
45. (New) The apparatus of claim 44, wherein the reference signal is representative of a desired power of the output signal.

46. (New) The apparatus of claim 33, wherein the comparator is operative to generate an analog result, the apparatus further comprising:
an analog-to-digital converter to convert the analog result to a digital value, and
wherein the controller is operative to generate the new value based on the digital value.